TRADE RESEARCH PROJECT

EMPLOYMENT, PRODUCTION AND REGIONAL DIVERSIFICATION AS CRITERIA FOR SELECTIVE TARIFF PROTECTION OF ONTARIO MANUFACTURERS

EXECUTIVE SUMMARY

OFFICE OF ECONOMIC POLICY

MINISTRY OF TREASURY, ECONOMICS
AND INTERGOVERNMENTAL AFFAIRS

OCTOBER, 1975

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STUDY NUMBER TWO:
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Scope and Purpose

The statistical developments supporting the Trade Research Project permit for the first time integration of trade, tariff and industrial strategies thus shedding new light into a number of areas of direct concern to economic policy. The immediate study focuses on production and employment displacements in the Ontario manufacturing sector which would probably result from reductions in Canadian tariffs.

The set of Ontario industries which are most vulnerable to tariff reductions is identified on the basis of trade dependence classifications previously developed.[1] Production and employment trends displayed by these industries are examined to determine their importance to the entire Ontario economy, their relative performance while protected by high tariffs and their importance to each of the development regions of the Province. The study therefore provides background information for appropriate adjustments in the Canadian tariff schedule by specifying the Ontario manufacturing industries vulnerable to injury as a result of tariff reductions and determining the effects of such injury on production, employment and regional diversification in the Province.

The study is not intended to provide a final determination on which Ontario industries should and should not be subjected to tariff reductions. Such determinations should be based on

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1. See Trade Research Project, Technical Paper: Framework for the Integration of Trade, Tariff and Industrial Data, Office of Economic Policy, October 1975.

a broader set of criteria, parts of which will be addressed in subsequent Trade Research Project studies and a detailed analysis of individual industries. However, the current study represents a basic and necessary first step in the formulation of an appropriate trade and tariff policy.

Summary of Methodology

Two basic criteria are employed to identify the set of manufacturing industries which would be most affected by adjustments in the Canadian tariff schedule. These are:

- an actual or potential penetration of imported goods into the domestic market of an industry; and
- a relatively high average nominal rate of tariff protection on the set of goods similar to those produced by the Ontario industry.

Out of a total set of 129 industries spanning the entire Ontario manufacturing sector, 44 industries satisfy the above criteria.

The relative importance of each of these industries to the overall Ontario economy is determined by reviewing output and production employment data over a 1965-1970 base period. Four statistical indexes are employed for this purpose:

1. the ratio of an industry's value of output in Ontario to the total value of the industry's Canadian output;
2. the ratio of an industry's production employment in Ontario to the total of the industry's production employment in Canada;
3. the ratio of an industry's value of output in Ontario to the total value of output of the Ontario manufacturing sector; and
4. the ratio of an industry's Ontario production employment to total production employment in the Ontario manufacturing sector.

Indexes one and two reveal how the Canadian tariff affects interests located in Ontario compared to concerns in the rest of Canada and indexes three and four reveal each industry's share of Ontario's manufacturing activity.

Production and employment growth trends are examined for each industry in question and compared to the overall performance of the Ontario manufacturing sector. The industries benefitting from high tariffs, but vulnerable to imports, are classified into three distinct performance sub groups:

- a low performance group which has experienced substantially slower output and production employment expansions than the average Ontario manufacturing industry;

- an average performance group comprised of industries whose output and employment expansions approximate the growth rates of the entire Ontario manufacturing sector; and

- a high performance group, containing those industries who have substantially outperformed the average rate of output and employment expansion registered in the Ontario manufacturing sector in the 1965-1970 base period.

Of the 44 highly protected, import vulnerable Ontario manufacturing industries, 15 are members of the low performance group, 9 are in the average group and 20 substantially exceeded the output and employment growth of the entire manufacturing sector.

Four separate statistical indexes are developed to examine the regional diversification and importance of each of the highly protected, import vulnerable Ontario manufacturing industries:

1. The ratio of an industry's value of output in a particular region to the total value of that industry's Ontario output.

2. The ratio of an industry's production employment in a particular region to the total of that industry's Ontario based production employment.

3. The ratio of an industry's value of output in a particular region to the total value of manufacturing output in that region.

4. The rario of an industry's production employment in a particular region to the total manufacturing production employment in that region.

Indexes one and two reveal the regional concentration of each industry in question, and indexes three and four display the relative importance of each industry to the overall economies of each of the ten Ontario economic development regions.

Systematic integration of the above data produces a set of observations which are of fundamental importance in assessing the economic impact of adjustments in the existing level of Canadian trade and tariff protection. These observations include:

- The identification of industries which are prone to production and employment displacement in the event of tariff adjustments.

- An assessment of the extent to which the Canadian tariff schedule applicable to these industries favour interests located in Ontario compared in interests located in the rest of Canada.

- An assessment of the importance of the displacement prone industries to the overall Ontario economy.
- A comparison of growth performance in the displacement prone industries with the performance of the entire Ontario manufacturing sector.
- The specification of the regional diversification of the displacement prone Ontario manufacturing industries.
- An assessment of the importance of these industries to the overall economies of each of the ten Ontario development regions.

In short, these observations permit adjustments in the Canadian tariff schedule to be judged on the basis of three criteria: production, employment and regional diversification in the Ontario economy.

Summary of Results

Summary Table 1 lists, in order of employment in Ontario,[1] for the highly protected, import vulnerable Ontario manufacturing industries, a sub-set of the statistical indexes employed in Study Number Two. In addition to detailing the trade dependence and performance classification of each industry, the Table incorporates tariff, output and production employment levels with the statistical indexes which describe the importance of each industry to the total Ontario economy and ten regional economies.

For example, the Major Electrical Appliance Industry, with 6,111 production employees in Ontario, is import competing and has had a relatively low level of employment and output expansion.

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1. Summary Table 1 excludes the 13 industries with average production employment in Ontario less than 1,000.

During the study period the industry accounted for 1.08 per cent of total Ontario production employment and 1.03 per cent of the value of output of Ontario manufacturing. Consequently, tariff related economic displacements centred in this industry will directly affect a little over one per cent of the Ontario manufacturing sector. These hypothetical displacements will have the greatest impact in the development regions of Eastern Ontario, Niagara, Lake Erie and Mid-Western Ontario where the Major Electrical Appliance Industry represents over one per cent of total regional manufacturing production employment.

Summary Table 1

Regions in Which Industry Accounts for More Than 1% of Regional Production Employment

Eastern Ontario	Lake Ontario	Central Ontario	Niagara	Lake Erie	Lake St. Clair	Mid-Western Ontario	Georgian Bay	North-Western Ontario	North-Eastern Ontario
(Industry's Share of Total Regional Manufacturing Employment -- Per Cent)									
4.74	1.08	5.82	1.85	1.63	*	3.32	1.41	*	1.17
*	2.18	1.84	*	1.22	*	3.85	11.63	*	*
*	5.27	2.30	*	*	1.64	3.63	3.35	*	*
*	1.28	2.41	*	2.75	*	*	*	*	*
1.42	*	1.11	2.70	*	1.20	3.62	*	*	*
*	2.16	1.26	*	*	3.68	2.20	2.27	*	*
*	2.15	1.12	*	1.84	*	3.99	2.06	*	*
*	*	2.32	*	*	*	*	*	*	*
10.98	5.18	*	*	1.65	*	2.23	1.06	*	*
1.55	*	*	1.15	2.22	*	2.83	*	*	*
1.85	*	1.24	*	*	*	*	*	*	*
1.14	*	*	*	1.66	*	1.55	*	*	*
*	*	1.16	*	1.59	*	*	*	*	*
*	*	1.68	*	*	3.00	*	1.68	*	*
*	*	1.36	*	*	*	*	*	*	*
*	1.51	*	*	*	*	*	*	*	*
*	*	1.30	*	*	*	*	*	*	*
*	*	*	*	*	*	*	4.90	*	*
1.72	*	*	2.01	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	1.83	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	1.13	1.02	*	*
*	*	*	*	1.29	*	*	*	*	*
*	*	*	*	*	*	*	1.13	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	1.09	*	*	*
*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	1.39	*	*	*

performance industry, * - less than one percent of regional labour force.

PROFILE OF EMPLOYMENT, PRODUCTION AND REGIONAL DIVERSIFICATION DATA FOR ONTARIO'S MOST HIGHLY PROTECTED AND IMPORT VULNERABLE MANUFACTURING INDUSTRIES

Industry Name (SIC)	Trade Dependence Group	Performance Group	Average Nominal Tariff (%)	Production Employment (1965-70) # of Workers	Value of Manufacturing Output (1965-70) ($Millions)	% of Industries Total Production Employment Located in Ontario (1965-70	(%) Industry Share of Total Ontario Activity: Production Employment	Value of Output
Clothing Industry(244)	D	A	18.48	20,867	302.1	20.7	3.69	1.24
Household Furniture Industry(261)	D	L	15.24	9,696	168.8	48.1	1.71	0.69
Plastic Fabricators, NES(385)	IC	H	11.55	8,602	227.1	64.8	1.52	0.93
Paper Box and Bag Mfg.(273)	D	H	12.39	8,473	284.3	50.0	1.50	1.17
Wire and Wire Product Ind.(305)	D	H	10.75	8,140	258.5	65.8	1.44	1.06
Hardware, Tool and Cutlery Mfg.(306)	IC	H	11.46	7,815	186.7	71.8	1.38	0.77
Shoe Factories(174)	D	A	15.10	7,143	101.7	41.9	1.26	0.42
Other Paper Converters(274)	D	H	10.66	6,672	257.0	67.4	1.18	1.06
Synthetic Textile Mills(201)	IC	H	12.32	6,576	218.7	40.7	1.16	0.90
Mfg. of Major Electrical Appliances (332)	IC	L	11.36	6,111	249.5	69.5	1.08	1.03
Misc. Manufacturing Industries(399)	IC	H	12.07	5,204	187.5	55.3	0.92	0.51
Other Knitting Mills(239)	IC	L	23.07	4,889	79.8	35.4	0.86	0.33
Confectionary Manufacturers(131)	D	A	12.17	4,835	143.8	58.0	0.85	0.59
Misc. Textile Industries(229)	IC	H	12.15	4,717	152.7	51.5	0.83	0.63
Sporting Goods and Toy Ind.(393)	IC	H	15.40	4,551	114.8	66.2	0.80	0.47
Other Rubber Industries(169)	IC	A	10.82	4,469	157.5	63.0	0.79	0.65
Other Furniture Industries(266)	D	H	12.42	4,233	107.1	41.3	0.75	0.40
Mfg. of Small Electrical Appliances (331)	IC	L	12.69	3,516	125.4	87.8	0.62	0.52
Cotton Yarn and Cloth Mills(183)	IC	L	16.20	3,360	58.4	26.5	0.59	0.24
Clay Product Manufacturers(351)	IC	A	13.93	2,509	57.3	56.1	0.44	0.21
Small Leather Good Mfg.(179)	D	L	15.40	2,261	34.6	39.8	0.40	0.14
Hosiery Mills(231)	D	A	23.58	2,172	32.5	31.6	0.38	0.13
Paint and Varnish Mfg.(375)	D	H	11.26	1,936	142.3	57.3	0.34	0.59
Heating Equipment Mfg.(307)	D	L	12.40	1,909	81.7	55.2	0.34	0.34
Wool Cloth Mills(197)	IC	L	13.65	1,808	33.9	34.2	0.32	0.14
Wooden Box Manufacturers(256)	D	A	13.27	1,706	32.0	60.9	0.30	0.13
Carpet, Rug and Mat Ind.(216)	D	H	16.09	1,695	61.1	49.3	0.30	0.25
Commercial Refridgeration Equip.(316)	IC	H	10.69	1,459	65.7	78.1	0.26	0.27
Tobacco Products(153)	D	H	29.58	1,300	115.2	20.7	0.23	0.47
Wool Yarn Mills (193)	D	L	10.92	1,213	21.7	85.2	0.21	.09
Rubber Footwear Mfg.(161)	IC	H	20.81	1,120	16.9	35.3	0.20	.07

Codes: IC - input competing industry, D - domestic industry, L - low performance industry, A - average performance industry, H - high

Summary Table 2 lists the aggregated indexes for the entire set of Ontario highly protected, import vulnerable industries. They accounted for 17.67 per cent of the total value of Ontario manufacturing output and 27.74 per cent of Ontario production employment in the 1965-1970 study period. Consequently, tariff reductions affecting this group of industries may have a pronounced effect on Ontario's overall economic performance. The major portion of output and production employment in these industries are concentrated in the regions of Central Ontario, Niagara and Mid-Western Ontario. In a proportional sense, however, this set of industries is most important to the Lake Ontario region where they represent 51.71 per cent of the region's value of manufacturing output and 78.5 per cent of its production employment. Hence, <u>tariff related economic displacements effecting this group of industries represent a serious threat to the Lake Ontario Region's manufacturing base</u>. The highly protected, import vulnerable industries also account for over one-third of production employment in the regions of Central Ontario, Mid-Western Ontario and Georgian Bay.

It should be noted that a high level of tariff protection and a vulnerability to import competition does not necessarily imply that an industry will undergo significant employment and production displacements as a result of trade and tariff liberalization. The prospect of international free trade is not an immediate possibility, and it appears that the Canadian bargaining position at the current round of negotiations under the General Agreement on Tariffs and Trade (GATT) will oppose linear tariff cuts in favour of a flexible formula

TOTAL ONTARIO HIGHLY PROTECTED, IMPORT VULNERABLE MANUFACTURING INDUSTRIES	Summary Table 2
Value of Industries' Ontario Output, 1965-1970 (annual average)	4.291 $Billion
Per Cent of Industries' Canadian Output Located in Ontario	48.77%
Industries' Share of Total Value of Ontario Manufacturing Output	17.67%
Industries' Ontario Production Employment, 1965-1970 (annual average)	156,916
Per Cent of Industries' Canadian Production Employment Located in Ontario	43.76%
Industries' Share of Total Value of Ontario Production Employment	27.74%

REGIONAL DIVERSIFICATION OF ONTARIO HIGHLY PROTECTED, IMPORT VULNERABLE MANUFACTURING INDUSTRIES

Region	Per Cent of Industry Output Produced in Region	Per Cent of Production Employment Located in Region	Industry Output / Total Mfg. Output in Region	Industry Production Employment / Total Prod. Employment in Region
Eastern Ontario	5.9	5.4	21.10	28.40
Lake Ontario	8.5	9.0	51.71	78.15
Central Ontario	48.8	48.3	20.78	39.24
Niagara	11.8	15.0	16.10	32.32
Lake Erie	6.3	4.4	17.78	26.81
Lake St. Clair	3.9	3.1	6.05	13.77
Mid-Western Ontario	11.4	10.9	31.47	41.63
Georgian Bay	3.3	3.8	29.17	38.63
Northwestern Ontario	0.1	0.1	0.49	0.68
Northeastern Ontario	0.1	0.1	1.59	2.98

for tariff reductions permitting selective protection for certain developing and vital sectors. Consequently, it is unrealistic to assume that all of the Ontario highly protected, import vulnerable industries will be subjected to equal reductions in tariff protection. Furthermore, individual industries will respond differently to trade and tariff liberalization. Certain Ontario industries may have developed beyond the infant industry stage and can prosper despite tariff cuts, while others may be subjected to varying degrees of production and employment displacement.

The exact determination of potential tariff related displacements requires a detailed study of each industry in question and extends beyond the scope of the current study. However, the 15 Ontario low performance industries[1] demand further consideration. These industries have provided limited returns for the high level of protection afforded by the Canadian tariff schedule. Based on the rough version of the cost-benefit concept developed in this paper, this group of industries may be considered candidates for tariff concessions. Summary Table 3 details the statistical indexes for this sub-group of industries.

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1. See list in Summary Table 3, footnote.

ONTARIO HIGHLY PROTECTED, IMPORT VULNERABLE LOW PERFORMANCE INDUSTRIES *	Summary Table 3
Value of Industries' Ontario Output, 1965-1970 (annual average)	918.8 $Million
Per Cent of Industries' Canadian Output Located in Ontario	47.7%
Industries' Share of Total Value of Ontario Manufacturing Output	3.9%
Industries' Ontario Production Employment, 1965-1970 (annual average)	37,403
Per Cent of Industries' Canadian Production Employment Located in Ontario	45.5%
Industries' Share of Total Value of Ontario Production Employment	6.6%

REGIONAL DIVERSIFICATION OF ONTARIO HIGHLY PROTECTED, IMPORT VULNERABLE LOW PERFORMANCE INDUSTRIES

Region	Per Cent of Industry Output Produced in Region	Per Cent of Production Employment Located in Region	Industry Output / Total Mfg. Output in Region	Industry Production Employment / Total Prod. Employment in Region
Eastern Ontario	5.3	6.5	3.69	6.21
Lake Ontario	2.6	3.4	3.07	5.37
Central Ontario	43.1	37.8	3.55	5.57
Niagara	16.7	16.6	4.38	6.52
Lake Erie	5.8	5.4	3.18	5.97
Lake St. Clair	0.9	0.9	0.27	0.74
Mid-Western Ontario	18.0	19.2	9.64	13.38
Georgian Bay	7.4	10.1	12.62	18.84
Northwestern Ontario	0.1	0.1	0.10	0.12
Northeastern Ontario	**	**	0.11	0.13

*In order of employment, the industries are household furniture, large electrical appliances, other knitting mills, small electrical appliances, cotton yarn and cloth mills, small leather goods, heating equipment, wool cloth mills, wool yarn mills, broom, brush and mop, fibre preparing mills, narrow fabric mills, coffin and casket, pressed and punched felt mills and cotton and jute bag industries.

**Less than one tenth of one per cent.

In total these fifteen low performance industries accounted for \$918.8 million of value of output and 37,403 production jobs in the 1965-1970 period on an annual average basis. This represented only 3.9 per cent of the total value of Ontario manufacturing output and 6.6 per cent of Ontario production employment in the base period. Consequently, <u>economic displacements stemming from cuts affecting the low performance industries would appear to have limited impact on the overall Ontario economy</u>. Regionally, industries in the low performance sub-group are located primarily in Central Ontario, Niagara and Mid-Western Ontario. <u>The industries were most important to Georgian Bay and to Mid-Western Ontario</u> during the study period, accounting for 12.62 and 9.64 per cent respectively of the area's manufacturing output and 18.84 and 13.38 per cent respectively of production employment. Thus, it would appear that tariff related displacements affecting the low performance group would have a major impact on only two of the ten Ontario regional economies.

As stated at the outset, this study is not intended to determine finally which Ontario manufacturing industries should and should not be considered for selective tariff subsidies. It does, however, present an important body of background material which provides perspective on the probable economic displacements inherent in a move towards liberalized tariff and trade arrangements. Furthermore, the study has identified certain groups of Ontario manufacturing industries which are possible candidates

for tariff adjustments. Based on employment, production and regional diversification criteria, the Ontario manufacturers in the low performance group form a set of industries which should be considered preliminary candidates for possible tariff concessions. The policy alternatives for industries in the average and high performance groups is less clear cut. In total, the industries in this group accounted for 13.88 per cent of the value of Ontario manufacturing output and 21.12 per cent of Ontario production employment during the study period. Consequently, tariff related displacements affecting these industries will have a much greater impact on the total Provincial economy than displacements in the low performance group.

Industries in all these performance groupings demand individual considerations before tariff concessions are actually granted. Certain industries may have developed to a point where continued tariff protection is unnecessary while others may demand further short term support to reach an internationally competitive position. Where international competitiveness is not a foreseeable occurrence, certain industries may still demand continued tariff protection because of their relative importance to the total Ontario economy and its regional diversification. Such judgements can be made only on an industry by industry basis. This paper does not provide the verdict, but does present a basic overview of the evidence and a perspective for policy formulation.